



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------|-------------|----------------------|---------------------|------------------|
| 10/527,396 | 03/11/2005 | Helmut Riedel | 4837/PCT | 8643 |
| 21553 | 7590 | 05/04/2006 | EXAMINER | |
| FASSE PATENT ATTORNEYS, P.A. | | | | LEE, PATRICK J |
| P.O. BOX 726 | | | | |
| HAMPDEN, ME 04444-0726 | | | | |
| | | | | ART UNIT |
| | | | | PAPER NUMBER |
| | | | | 2878 |

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/527,396 | RIEDEL ET AL. | |
| | Examiner Patrick J. Lee | Art Unit 2878 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 March 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,9,10 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,9,10 and 14-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 March 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>0305</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

In accordance with 37 CFR § 1.77(c), the specification should be delineated with section headings.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the compensation being done by components that are constant must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

As stated in claims 1 & 9, there is a reference to a constant component (S_{GL}). Under the common plain meaning of "constant", it would refer to a value that does not change. However, the figure does show that the value could change as a function of S_1 . If applicant is serving as his own lexicographer, applicant should point out where in the specification "constant" is defined in a way to allow variation.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

With respect to claim 1, to be in accordance with 37 CFR § 1.75(i), the elements of the claim should be separated by indentations. In addition, in line 6 of claim 1, a comma should be located after "differential unit (6)".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2878

6. Claims 9-10 & 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:

With respect to claim 9, no steps as to the method have been stated as to the compensation of the measuring signals as there is just a statement regarding the constant component. The claim as written does not give any specific steps as to the operation of the method. If there are multiple steps, claim 9 would also face a similar objection under 37 CFR § 1.75(i) as to the indentation of elements in the claim as seen in the objection of claim 1. As a result, claims 9 and dependent claims 10 & 20-22 are rejected.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 9-10, 14, 16, & 20 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,410,145 to Coroy.

With respect to claim 1, Coroy discloses a device for compensating dark current comprising: photodiodes (52, 58, 92, 94) as a photodetector unit for detecting and determining at least two measuring signals (I_1 , I_2); subtraction circuit (84) as a differential unit for subtraction of measuring signals; and op-amps (68, 70) serve as compensation units for compensating constant components (V2) from the signals (I_1 , I_2).

With respect to claim 2, Coroy discloses the use of two op-amps, which corresponds to the number of detected measuring signals (I_1, I_2).

With respect to claims 9-10, Coroy discloses a device for compensating dark current comprising: photodiodes (52, 58, 92, 94) as a photodetector unit for detecting and determining at least two measuring signals (I_1, I_2); subtraction circuit (84) as a differential unit for subtraction of measuring signals; and op-amps (68, 70) serve as compensation units for compensating constant components (V_2) from the signals (I_1, I_2).

With respect to claim 14, Coroy discloses the use of op-amps (68, 70) as an amplifier unit.

With respect to claim 16, Coroy discloses the use of two op-amps, which corresponds to the number of detected measuring signals (I_1, I_2).

With respect to claim 20, the constant factor is determined as voltage (V_2).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 15, 17-19, & 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,410,145 to Coroy in view of US 5,498,993 to Ohtsuka et al.

Coroy discloses the device as described in the discussion of claims 1-2, 9-10, 14, 16, & 20.

With respect to claim 15, the teachings of Coroy do not explicitly disclose the use of an amplifier unit common for all measuring signals in the compensation unit.. However, Ohtsuka et al disclose a noise compensation device comprising of a plurality of differential amplifiers (A₁₃, A₁₇) as a common for both signals from PD₁₁ and PD₁₂ before going to the final differential unit (A₁₈). To modify the teachings of Coroy with those of Ohtsuka et al would have been obvious to one of ordinary skill in the art because it would allow for the determination of a peak signal (see Ohtsuka et al column 6, lines 10-38; column 9, lines 54-67) for additional feedback capabilities.

With respect to claim 17, the limit value module is not explicitly disclosed, but such would have been obvious to one of ordinary skill in the art because such would give the device the capability for determining its operating capability.

With respect to claim 18, the use of a photonic mixer detector is not explicitly disclosed but such would have been obvious to one of ordinary skill in the art in order to ensure that additional sources of error arise due to inconsistencies in the operation of the two photodiodes that produce the two signals.

Art Unit: 2878

With respect to claim 19, the use of an active pixel sensor is not explicitly disclosed, but such would have been obvious to one of ordinary skill in the art because such would allow the integration of the circuitry into the sensor and allow for ease of manufacture and reduced costs of production.

With respect to claim 21, the constant component as a function of the measuring signals is not explicitly disclosed, but such would have been obvious to one of ordinary skill in the art in order to allow the device flexibility and allow for expansion of its operating range.

With respect to claim 22, the use of a mean maximum modulation contrast is not explicitly disclosed, but such would have been obvious to one of ordinary skill in the art in order to ensure for an appropriate basis to determine the component that will be compensate and eventually be cancelled out in the final differential calculation.

Conclusion

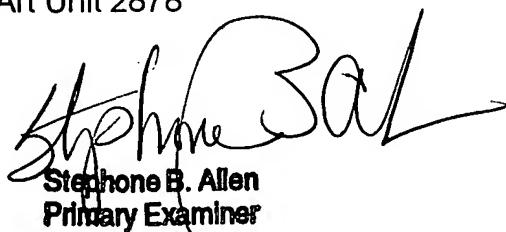
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J. Lee
Examiner
Art Unit 2878

PJL
April 25, 2006



Stephone B. Allen
Primary Examiner